

## List of Abbreviations

<b>AP</b>	- 4-Acyl Pyrazolone
<b>Ar-H</b>	- Aromatic-hydrogen
<b>B3LYP</b>	- Becke, 3-parameter, Lee-Yang-Parr
<b>C.V.</b>	- Cyclic Voltammetry
<b>Calcd</b>	- Calculated
<b>comp</b>	- complex / compound
<b>2D</b>	- 2-dimensional
<b>d (in NMR write-up)</b>	- Doublet
<b>DFT</b>	- Density Functional Theory
<b>DTG</b>	- Derivative Thermogravimetry
<b>DMF</b>	- N, N-Dimethylformamide
<b>DMSO</b>	- Dimethylsulphoxide
<b>DPPH -</b>	- 2,2-diphenyl-1-picrylhydrazyl
<b>EtOH</b>	- Ethanol
<b>Ele. Anal.</b>	- Elemental Analysis
<b>EPR</b>	- Electron spin Resonance
<b>Et</b>	- Ethyl
<b>eV</b>	- electron volt
<b>eq</b>	- equivalent
<b>FTIR</b>	- Fourier-Transform Infrared Spectroscopy
<b>FC</b>	- field colling
<b>Hrs/hr/h</b>	- Hour
<b>HOMO</b>	- Highest Occupied Molecular Orbital
<b>ILCT</b>	- Intra ligand charge transfer
<b>keV</b>	- kilo electron volt
<b>LMCT</b>	- Ligand to Metal Charge Transfer
<b>LUMO</b>	- Lowest Unoccupied Molecular Orbital
<b>LNT</b>	- Liquid Nitrogen temperature
<b>LANL2DZ</b>	- Los Alamos National Laboratory 2 Double-Zeta
<b>M. P.</b>	- Melting Point
<b>max</b>	- maximum
<b>m (in NMR write-up)</b>	- Multiplet
<b>Me</b>	- Methyl
<b>MHz</b>	- Megahertz
<b>M.F.</b>	- Molecular formula
<b>NMR</b>	- Nuclear Magnetic Resonance Spectroscopy
<b>ORTEP</b>	- Oak Ridge Thermal Ellipsoid Plot
<b>Oe</b>	- Oersted
<b>pyz</b>	- Pyrazolone
<b>ppm</b>	- parts per million

<b>R.B. flask</b>	- Round bottom flask
<b>SQUID-VSM</b>	- Superconducting Quantum Interference Device - Vibrating Sample Magnetometer
<b>SCXRD</b>	- Single Crystal X-Ray Diffraction
<b>s (in NMR write-up)</b>	- Singlet
<b>t (in NMR write-up)</b>	- Triplet
<b>TBAP</b>	- Tetrabutylammonium phosphate
<b>TGA</b>	- Thermogravimetric Analysis
<b>TG-DTA</b>	- Thermogravimetry Differential Thermal Analysis
<b>TMS</b>	- Tetramethyl silane
<b>UV-VIS</b>	- Ultraviolet-Visible
<b>wt</b>	- weight
<b>XRD</b>	- X-Ray Diffraction
<b>ZFC</b>	- zero-field cooling
<b><math>\lambda</math></b>	- wavelength